

REMARKS

Claims 1, 4, 11, 14, 18, 21, 32, 33, 35, 36, 52, 53, 55, 58, 65-78 and 86-102 are pending in the application, with claims 1, 4, 65, 72, 86 and 93 being independent. Claims 1, 4, 65, 72, 86 and 93 have been amended, and claims 100-102 have been added to recite features removed by the amendments to claims 1, 65 and 86. No new matter has been introduced.

The amendments to claims 1, 65 and 86 provide clarification and remove elements that were added in response to a rejection based on the references currently at issue. The amendments to claims 4, 72 and 93 provide clarification. As such, these amendments are not believed to raise new issues requiring further search or consideration.

Applicants acknowledge with appreciation the Examiner's indication that claims 14, 73 and 94 are directed to allowable subject matter.

Claims 1, 11, 18, 32, 35, 52, 55, 61, 65-71 and 86-92, including independent claims 1, 65 and 86, have been rejected as being unpatentable over Yamazaki (EP 1 003 223 A2) in view of Karr (U.S. Patent 6,534,425 B1). Each of independent claims 1, 65 and 86 recites forming, on a conductive film, a resist pattern having a middle portion that is thicker than its edge portions (for ease of discussion, this resist pattern is referred to below as a tapered resist pattern or a tapered resist mask), and using the tapered resist pattern in forming a gate electrode having a middle portion that is thicker than its edge portions (for ease of discussion, this gate electrode is referred to below as a tapered gate electrode). Applicant requests reconsideration and withdrawal of this rejection because neither Yamazaki, Karr, nor any proper combination of the two describes or suggests forming a tapered resist pattern on a conductive film and using the tapered resist pattern in forming a tapered gate electrode.

In making the rejection, the Examiner states that Yamazaki forms "a resist pattern 109" on a conductive film and uses the resist pattern to etch the conductive film to form the tapered electrode 108. This is not the case. Rather, as describe by Yamazaki at paragraphs 0044 and 0045, a resist mask 106 is formed on a second conductive film 105 and used in etching the second conductive film 105 to form a second gate electrode 109 (that does not have a tapered

cross section). The first conductive film 104 then is etched using a taper etching process and the same resist mask 106 to form a first gate electrode 108 that has a tapered cross section. As shown in Figs. 1C and 1D, Yamazaki illustrates that a tapered electrode may be formed using a resist mask that does not include a tapered cross section. Yamazaki also notes that a new resist mask may be formed for this etching..

With respect to taper etching, Yamazaki notes, at paragraph 0041, that it is desirable to form the first conductive film 104 using a material in which taper etching can be easily carried out. Yamazaki then goes on to describe suitable materials. Thus, Yamazaki indicates that the tapered cross section of the gate electrode may be obtained through material selection, and nowhere indicates that a tapered resist mask is to be used in etching the conductive film to form a tapered gate electrode.

Recognizing that Yamazaki does not describe a tapered resist pattern, the Examiner turns to Karr, which describes the use of a sloped photoresist profile to bevel the edge of the Air Bearing Surface (ABS) of a magnetic data head. See Karr at col. 2, lines 48-50. Thus, Karr also does not indicate that a tapered resist mask is to be used in etching a conductive film to form a tapered gate electrode.

Accordingly, the rejection should be withdrawn because neither Yamazaki nor Karr would have provided any motivation to modify Yamazaki's system in view of Karr in the manner suggested by the Examiner. The Examiner argues that the motivation would have resulted because the process used by Karr "is a suitable method in which to make a tapered gate electrode structure." However, even assuming for sake of argument that the method used by Karr is suitable for use in Yamazaki's system, whether the method is suitable is not the proper standard. In particular, it is not enough that the elements of the different references can be combined (i.e., that the process is suitable). Rather, at least one of the references must provide some motivation for making the combination. Since neither reference indicates that the process used by Karr should be used in etching a conductive film to form a tapered gate electrode, no such motivation exists.

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Claims 4, 21, 33, 36, 53, 58, 72, 74-78, 93, and 95-99, including independent claims 4, 72 and 93, have been rejected as being unpatentable over Yamazaki in view of Karr and Tabata (U.S. Patent 5,744,381). Like claims 1, 65 and 86, each of independent claims 4, 72 and 93 recites forming a tapered resist pattern on a conductive film and using the tapered resist pattern in forming a tapered gate electrode. Accordingly, applicant requests reconsideration and withdrawal of this rejection for the reasons presented above and because Tabata does not remedy the failure of Yamazaki and Karr to provide any motivation to combine those references in the manner suggested by the Examiner.

Applicant submits that all claims are in condition for allowance.

No fees are believed due. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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John F. Hayden
Reg. No. 37,640

Customer No. 26171
Fish & Richardson P.C.
1425 K Street, N.W., 11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (202) 783-2331